

**METHOD AND APPARATUS FOR IMPROVING PERCEIVED SIGNAL QUALITY  
OF TRANSMITTED INFORMATION IN A FULL DUPLEX WIRELESS  
COMMUNICATION SYSTEM**

5

**ABSTRACT OF THE DISCLOSURE**

10 A full duplex wireless communication system (100) employs a method for  
improving perceived signal quality of transmitted information within the system. The  
wireless communication system includes fixed infrastructure equipment and one or more  
wireless communication devices (101). The fixed infrastructure equipment includes at  
least a transcoder (201), a router (203) and a base transceiver site (BTS, 103). The router  
is operably coupled between the transcoder and the BTS, and supports a non-deterministic  
packetized transport for communicating information between the transcoder and the BTS  
as information packets. To reduce delays of information packets communicated between  
15 the transcoder and the BTS, and thereby improve the perceived quality of communications  
that include such information packets, the transcoder, router and BTS employ a unique  
synchronization-based priority scheme for communicating information packets from the  
transcoder to the BTS. In accordance with the priority scheme, an indication of the status  
of synchronization between the transcoder and the BTS is included in an information  
20 packet to guide the router's processing of the packet. The router examines the priority and  
either stores the packet or communicates the packet to the BTS. In the event that the router  
stores the packet, the router preferably inserts a time-delay indication into a portion of the  
packet to inform the BTS of how long the packet was stored. The BTS uses the time-delay  
indication to determine a desired transcoder transmission time for a subsequent packet of  
25 the same communication, and communicates an indication of the desired transcoder  
transmission time to the transcoder.

09678716 100400